

$$V_{app(S)} = 21.8 \quad V_{app(R)} = 14.9 \quad E_{app} = 1.5$$

FIG. 1A

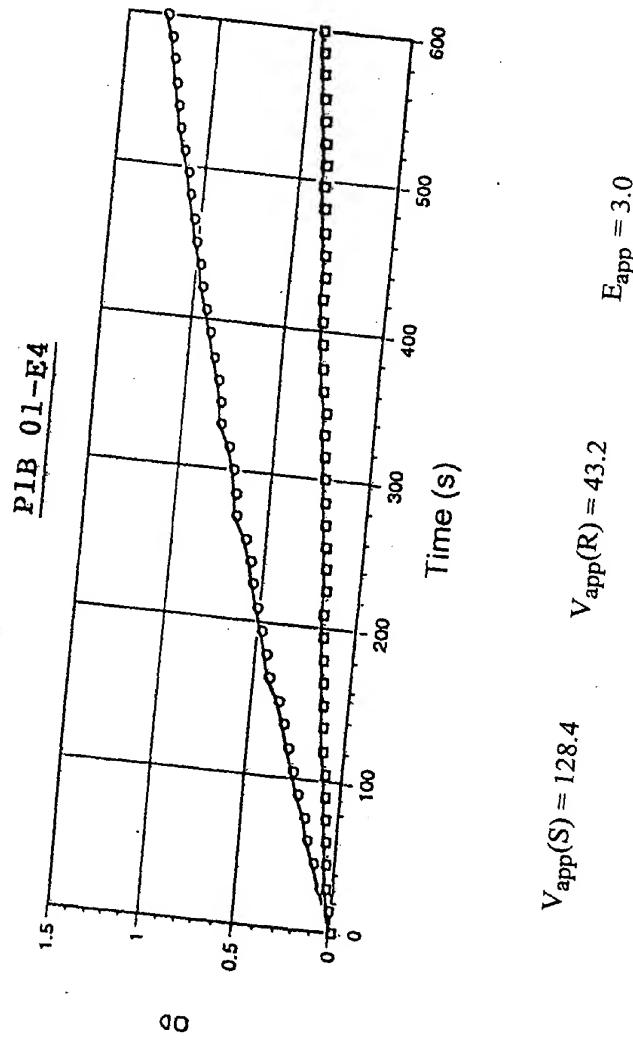
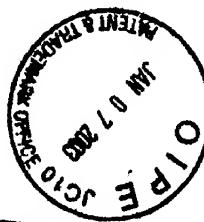
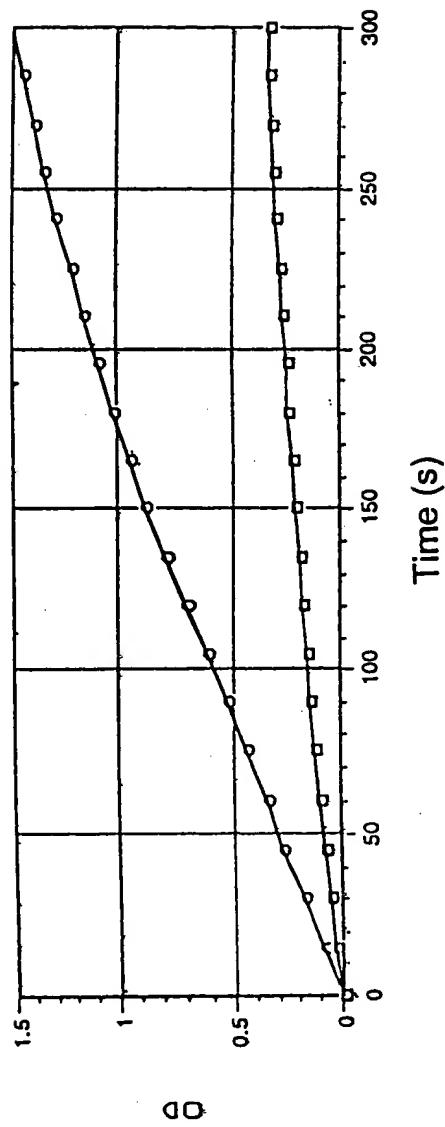


FIG. 1B



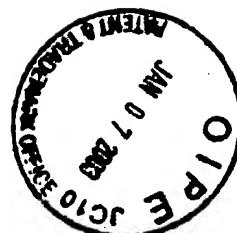
P2B 08-H3



$$V_{app}(S) = 310.8 \quad E_{app} = 4.6$$

$$V_{app}(R) = 67.4$$

FIG. 1C



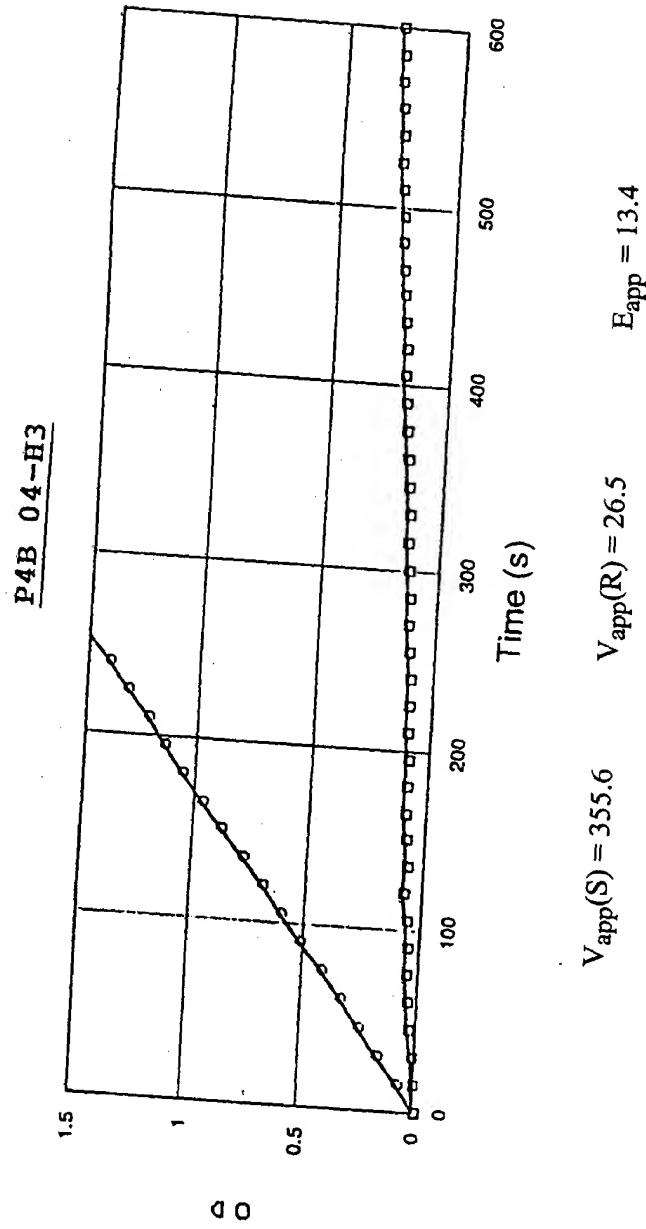
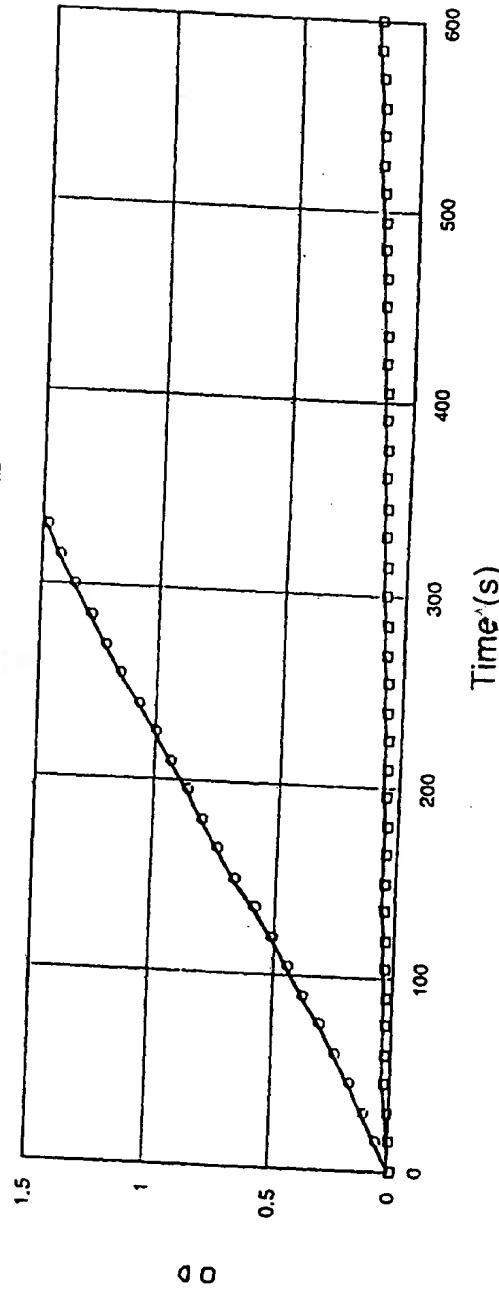


FIG. 1E

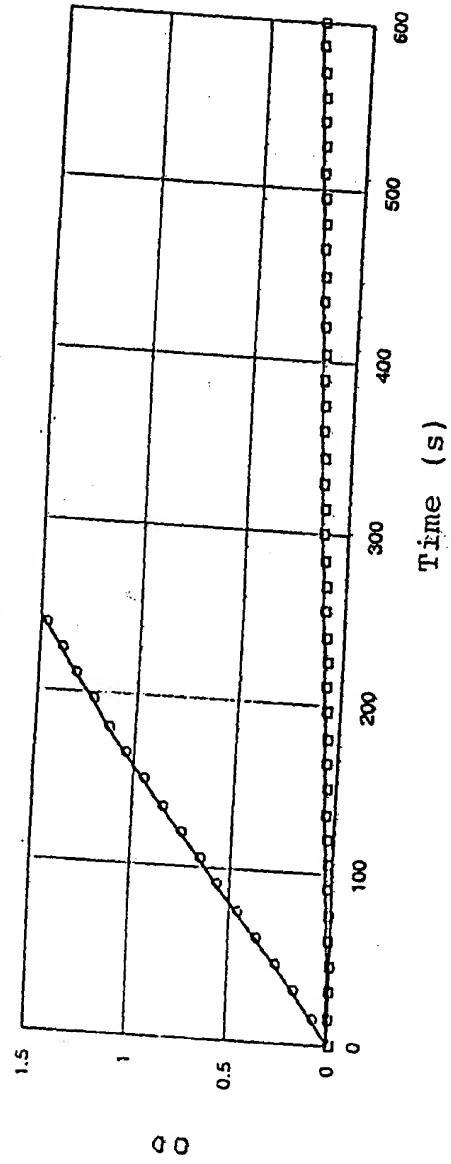
P5B 14-C11



$V_{app}(S) = 275.9$ $V_{app}(R) = 17.3$ $E_{app} = 15.9$

FIG. 1F

P4BSE 03-G10



$V_{app}(S) = 384.7$

$V_{app}(R) = 25.3$

$E_{app} = 15.2$

FIG. 1G



Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

		10																	
G	G	A	T	C	C	C	C	C	G	G	19								
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20
G	G	A	T	C	C	C	C	G	G	T	T	C	T	C	C	C	G	G	20

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

	20	30																		
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	39
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40
A	A	G	G	A	T	T	C	G	G	G	C	G	A	T	G	G	C	T	G	40

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

	40	50																	
G	C	A	G	G	A	C	G	C	G	C	C	C	T	C	G	G	C	C	59
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60
G	C	A	G	G	A	C	G	C	G	C	C	C	C	T	C	G	G	C	60

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

	60	70																	
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	79
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80
C	C	A	T	C	A	A	C	C	T	G	A	G	A	T	G	A	G	A	80

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

	80	90																	
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	99
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	A	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100
C	A	A	C	A	T	G	A	A	G	A	G	A	A	G	T	C	T	C	100

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

	100	110																	
T	G	C	T	C	C	C	C	C	T	C	G	G	C	T	G	G	C	C	119
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120
T	G	C	T	C	C	C	C	C	T	C	G	G	C	C	T	G	G	C	120

FIG. 2A



Wild type	120										130										
P1B 01-H1	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	139
P1B 01-E4	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
P2B 08-H3	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
P3B 13-D10	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
P4B 04-H3	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
P5B 14-C11	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
P4BSF 03-G10	A	T	C	G	G	T	C	T	C	G	C	C	T	C	T	C	T	C	G	C	140
Wild type	140										150										
P1B 01-H1	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	159
P1B 01-E4	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
P2B 08-H3	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
P3B 13-D10	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
P4B 04-H3	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
P5B 14-C11	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
P4BSF 03-G10	T	G	C	C	A	G	C	C	C	T	C	T	G	A	T	C	C	A	G	G	160
Wild type	160										170										
P1B 01-H1	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	179
P1B 01-E4	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
P2B 08-H3	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
P3B 13-D10	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
P4B 04-H3	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
P5B 14-C11	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
P4BSF 03-G10	C	C	A	G	C	A	C	C	T	A	C	A	C	C	C	A	G	A	C	C	180
Wild type	180										190										
P1B 01-H1	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	199
P1B 01-E4	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
P2B 08-H3	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
P3B 13-D10	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
P4B 04-H3	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
P5B 14-C11	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
P4BSF 03-G10	A	A	A	T	A	C	C	C	C	A	T	C	G	T	G	C	T	G	G	C	200
Wild type	200										210										
P1B 01-H1	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	219			
P1B 01-E4	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
P2B 08-H3	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
P3B 13-D10	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
P4B 04-H3	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
P5B 14-C11	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
P4BSF 03-G10	C	C	A	C	G	G	C	A	T	C	G	C	T	T	T	C	G	220			
Wild type	220										230										
P1B 01-H1	A	C	A	A	C	A	T	C	C	T	C	G	G	G	G	T	C	G	A	C	239
P1B 01-E4	A	C	A	A	C	A	T	C	C	T	C	G	G	G	G	T	C	G	A	C	240
P2B 08-H3	A	C	A	A	C	A	C	T	C	T	C	G	G	G	G	T	C	G	A	C	240
P3B 13-D10	A	C	A	A	C	A	C	T	C	T	C	G	G	G	G	T	C	G	A	C	240
P4B 04-H3	A	C	A	A	C	A	C	T	C	T	C	G	G	G	G	T	C	G	A	C	240
P5B 14-C11	A	C	A	A	C	A	C	T	C	T	C	G	G	G	G	T	C	G	A	C	240
P4BSF 03-G10	A	C	A	A	C	A	C	T	C	T	C	G	G	G	G	T	C	G	A	C	240

FIG. 2B



Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

240	250	
T A C T G G T T C G G C A T T T C C C C A G	259	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	
T A C T G G T T C G G C A T T T C C C C A G	260	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

260	270	
C G C C T T G C G C C G T G A C G G G T G	279	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	
C G C C T T G C G C C G T G A C G G G T G	280	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

280	290	
C C C A G G G T C T A C G T C A C C C G A A	299	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	
C C C A G G G T C T A C G T C A C C C G A A	300	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

300	310	
G T C A G G C C A G T T T G G A C A C C C T C	319	
G T C A G G C C A G T T T G G A C A C C C T C	320	
G T C A G G C C A G T T T G G A C A C C C T C	320	
G T C A G G C C A G T T T G G A C A C C C T C	320	
G G C A G G C C A G T T T G G A C A C C C T C	320	
G G C A G G C C A G T T T G G A C A C C C T C	320	
G G C A G G C C A G T T T G G A C A C C C T C	320	
G G C A G G C C A G T T T G G A C A C C C T C	320	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

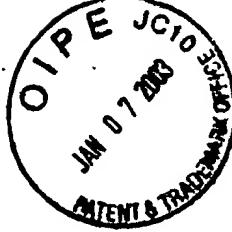
320	330	
G G A A G T C C G C G G C G A G C A G T	339	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	
G G A A G T C C G C G G C G A G C A G T	340	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

340	350	
T G C T G C A A C A G G G T G G A G G G A A	359	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	
T G C T G C A A C A G G G T G G A G G G A A	360	

FIG. 2C



Wild type.

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

360	370	
A T C G T C G C C C T C A G G C G G C C A	379	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	
A T C G T C G C C C T C A G G C G G C C A	380	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

380	390	
G C C C A A G G T C A A C C T G A T C G	399	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	
G C C C A A G G T C A A C C T G A T C G	400	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

400	410	
G C C A C A G C C A C G G G C G G G C C G	419	
G C C A C A G C C A C G G G C G G G C C G	420	
G C C A C A G C C A C G G G C G G G C C G	420	
G C C A C A G C C A C G G G C G G G C C G	420	
G C C A C A G C C A C G G G C G G G C C G	420	
G C C A C A G C C A C G G G C G G G C C G	420	
G C C A C A G C C A C G G G C G G G C C G	420	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

420	430	
A C C A T C C G C T A C G T C G C C G C	439	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	
A C C A T C C G C T A C G T C G C C G C	440	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

440	450	
C G T A C G T C C C G A C C T G A T C G	459	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	
C G T A C G T C C C G A C C T G A T C G	460	

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
PSB 14-C11
P4BSF 03-G10

460	470	
C T T C C G C C A C C C A G G C G T C G G C	479	
C T T C C G C C A C C C A T C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	
C T T C C G C C A C C C A G G C G T C G G C	480	

FIG. 2D



Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

Wild type

P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

FIG. 2E



Wild type	600	610	
P1B 01-H1	A G C G G G C A G C A C C G G T A C G C A	619	
P1B 01-E4	A G C G G G C G G C A C C G G T A C G C A	620	
P2B 08-H3	A G C G G G C G G C A C C G G T A C G C A	620	
P3B 13-D10	A G C G G G C G G C A C C G G T A C G C A	620	
P4B 04-H3	A G C G G G C G G C A C C G G T A C G C A	620	
P5B 14-C11	A G C G G G C G G C A C C G G T A C G C A	620	
P4BSF 03-G10	A G C G G G C G G C A T C G G T A C G C A	620	
Wild type	620	630	
P1B 01-H1	G A A T T T C A C T G G G C T C G C T G G	639	
P1B 01-E4	G A A T T T C A C T G G G C T C G C T G G	640	
P2B 08-H3	G A A T T T C A C T G G G C T C G C T G G	640	
P3B 13-D10	G A A T T T T A C T G G G C T C G C T G G	640	
P4B 04-H3	G A A T T T T A C T G G G C T C G C T G G	640	
P5B 14-C11	G A A T T T T A C T G G G C T C G C T G G	640	
P4BSF 03-G10	G A A T T T T T C T G G G C T C G C T G G	640	
Wild type	640	650	
P1B 01-H1	A G T C G C T G A A C A G C G A G G G T	659	
P1B 01-E4	A G T C G C T G A A C A G C G A G G G T	660	
P2B 08-H3	A G T C G C T G A A C A G C G A G G G T	660	
P3B 13-D10	A G T C G C T G A A C A G C G A G G G T	660	
P4B 04-H3	A G T C G C T G A A C A G C G A G G G T	660	
P5B 14-C11	A G T C G C T G A A C A G C G A G G G T	660	
P4BSF 03-G10	A G T C G C T G A A C A G C G A G G G T	660	
Wild type	660	670	
P1B 01-H1	G C C G C G C G C T T C A A C G C C C A A	679	
P1B 01-E4	G C C G C G C G C T T C A A C G C C C A A	680	
P2B 08-H3	G C C G C G C G C T T C A A C G C C C A A	680	
P3B 13-D10	G C C G C G C G C T T C A A C G C C C A A	680	
P4B 04-H3	G C C G C G C G C T T C A A C G C C C A A	680	
P5B 14-C11	G C C G C G C G C T T C A A C G C C C A A	680	
P4BSF 03-G10	G C C G C G C G C T T C A A C G C C C A A	680	
Wild type	680	690	
P1B 01-H1	G T A C C C C G C A G G G G C A T C C C C A	699	
P1B 01-E4	G T A C C C C G C A G G G G C A T C C C C A	700	
P2B 08-H3	G T A C C C C G C A G G G G C A T C C C C A	700	
P3B 13-D10	G T A C C C C G C A G G G G C A T C C C C A	700	
P4B 04-H3	G T A C C C C G C A G G G G C A T C C C C A	700	
P5B 14-C11	G T A C C C C G C A G G G G C A T C C C C A	700	
P4BSF 03-G10	G T A C C C C G C A G G G G C A T C C C C A	700	
Wild type	700	710	
P1B 01-H1	C C T C G G C C T G C G G C G A A G G G C	719	
P1B 01-E4	C C T C G G C C T G C G G C G A A G G G C	720	
P2B 08-H3	C C T C G G C C T G C G G C G A A G G G C	720	
P3B 13-D10	C C T C G G C C T G C G G C G A A G G G C	720	
P4B 04-H3	C C T C G G C C T G C G G C G A A G G G C	720	
P5B 14-C11	C C T C G G C C T G C G G C G A A G G G C	720	
P4BSF 03-G10	C C T C G G C C T G C G G C G A A G G G C	720	

FIG. 2F



Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

720	730	
G C C T A C A A G G T C A A A C G G G C G T		739
G C C T A C A A G G T C A A A C G G G C G T		740
G C C T A C A A G G T C A A A C G G G C G T		740
G C C T A C A A G G T C A A A C G G G C G T		740
G C C T A C A A G G T C A A A C G G G C G T		740
G C T A C A A G G T C A A A C G G G C G T		740
G C T A C A A G G T C A A A C G G G C G T		740
G C C T A C A A G G T C A A A C G G G C G T		740

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

740	750	
G A G C T A T T A C T C C T G G A G C G		759
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760
G A G C T A T T A C T C C T G G A G C G		760

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

760	770	
G T T C C T C G C C G C T G A C C A A C		779
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780
G T T C C T C G C C G C T G A C C A A C		780

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

780	790	
T T C C T C G A T C C G A G C G A C G C		799
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800
T T C C T C G A T C C G A G C G A C G C		800

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

800	810	
C T T C C T C G G C G C C T C G T C G C		819
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820
C T T C C T C G G C G C C T C G T C G C		820

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

820	830	
T G A C C T T C A A G A A C G G G C A C C		839
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840
T G A C C T T C A A G A A C G G G C A C C		840

FIG. 2G



Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

840	850	
G C C A A C G A C G G C C T G G T C G G		859
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860
G C C A A C G A C G G C C T G G T C G G		860

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

860	870	
C A C C T G C A G T T C G C A C C T G G		879
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880
C A C C T G C A G T T C G C A C C T G G		880

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

880	890	
G C A T G G T G A T C C G C G A C A A C		899
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900
G C A T G G T G A T C C G C G A C A A C		900

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

900	910	
T A C C G G A T G A A C C A C C T G G A		919
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920
T A C C G G A T G A A C C A C C T G G A		920

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

920	930	
C G A G G G T G A A C C C A G G G T C T T C G		939
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940
C G A G G G T G A A C C C A G G G T C T T C G		940

Wild type

P1B 01-H1
P1B 01-E4
P2B 08-H3
P3B 13-D10
P4B 04-H3
P5B 14-C11
P4BSF 03-G10

940	950	
G C C T C A C C C A G C C T G T T C G A G		959
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960
G C C T C A C C C A G C C T G T T C G A G		960

FIG. 2H



FIG. 2I